

Math 105 Quiz 3

§2.1-§2.2, 9/28/12

Name:

Show all work for credit. As discussed in class, please re-write any negative or fractional exponents appropriately.

1. Find the derivative of $f(x) = \sqrt{3x - 2}$ using the limit definition of the derivative.

2. Use the sum/difference, constant multiple, and power rules to evaluate the following.

(a) $(2\sqrt[3]{x} - e + \frac{1}{3x^4} - x + x^{3/5})'$

(b)

$$\frac{d}{dx} \left(\frac{x(2x + 3)}{x^{\frac{1}{2}}} \right)$$

3. Find the equation of the tangent line at $x = 4$ on the function $f(x) = \frac{x(2x + 3)}{x^{\frac{1}{2}}}$